Qsee®
simplicity - quality - technology

User Manual

QS494
QS458
QS4716
QS558
QS4816

QS SERIES

QS Series DVRs

Thank You for Choosing a Q-See Product!

All of our products are backed by a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software and is available at www.Q-See.com.

Be certain to make the most of your warranty by completing the registration form online. In addition to warranty and technical support benefits, you'll receive notifications of product updates along with free downloadable firmware updates for your DVR. Register today at www.Q-See.com!

Please see the back of this manual for exclusions.

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Manufacturer shall not be liable for any damages whatsoever from misuse of this product.

About this Manual

This manual is written for Q-See's model QS494, QS458, QS4716, QS4816 and QS558 DVRs and was accurate at the time it was completed. However, because of our ongoing effort to constantly improve our products, additional features and functions may have been added since that time and on-screen displays may change. We encourage you to visit our website at www.Q-see.com to check for the latest firmware updates and product announcements.

Throughout the manual we have highlighted warnings and other important information that will assist you in operating your new system in a safe and trouble-free manner. Please take the time to read and follow all instructions and pay attention to alerts as shown below:

IMPORTANT! Red boxes with this icon indicate warnings. To prevent possible injury or damage to the product, read all warnings before use.

NOTE! Text in blue boxes with the Information icon offer additional guidance and explanations about how to make the most out of your system.

Rev. 3.1 8/19/12

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INTRODUCTION CHAPTER 1

To prevent damage to your Q-See product or injury to yourself or to others, read and understand the following safety precautions in their entirety before installing or using this equipment. Keep these safety instructions where all those who use the product will read them.

WARNING! ELECTRIC SHOCK RISK!

- Check the unit and any accessories included in the package immediately after opening. If items are missing or damaged, repackage and return to the point of purchase.
- Use the proper power source. Only use the power adapter supplied with your system. Do not use this product with a power source that applies more than the specified voltage (100-240V AC).
- Never insert anything metallic into the DVR. Inserting anything into the DVR or its case can be a source of dangerous electric shock.
- Do not operate in dusty areas.
- Do not expose this product to rain or use near water. If this product accidentally gets wet, unplug it and contact Q-See immediately.
- Keep product surfaces clean and dry. To clean the outside case of the DVR, gently wipe using a lightly dampened cloth (only use water, do not use solvents).
- Do not operate this DVR without the cover securely in place. Do not attempt to do any repairs to the DVR yourself. If there are unusual sounds or smells coming from the DVR, unplug it immediately and contact Q-See technical support. Under no circumstances should the cover be removed while the device is connected to a power source. You should only remove the cover to install/replace the hard disk drive (**See Chapter 7**) or replace the standard 3v lithium cell battery on the motherboard. These are the only user serviceable parts. You may need to replace the battery if the internal clock resets itself after a power outage
- Handle DVR box carefully. If you accidentally drop your DVR on any hard surface, it may cause a malfunction. If the DVR doesn't work properly due to physical damage, contact Q-See for repair or exchange.
- Make sure there is proper air circulation around the unit. This DVR system uses a hard drive for video storage which generates heat during operation. Do not block air holes located on the bottom, top, sides and back of the DVR as they are designed to keep the system cool while running. Install or place this product in an area where there is ample air circulation.
- Provide proper ventilation. This DVR has a built-in fan that properly ventilates the system. Do not cover or impede this fan.

FEATURES AND SPECIFICATIONS

This product offers the following features:

Smartphone Compatible

Access live footage directly from your iPhone, iPad as well as Android smartphones and tablets. Your DVR can also be set to e-mail your hand held-device whenever specific activity occurs, such as motion detection.

View Your Video Feed Online with No Extra Service Fees

View your DVR's live or recorded video footage on any Internet accessible computer with Internet Explorer, Mozilla Firefox and Google Chrome (using IE plug-in).

Stay Notified with Customizable Email Alerts

Set your system up to notify you when an event has occurred at the location you are monitoring. Notification alerts can easily be adjusted to your specifications.

Advanced Motion Detection Activated Recording

Advanced motion detection settings ensure that false alarms are not triggered. The easy to use motion detect set up screen allows you to mask out certain areas which experience heavy movement in order to avoid false alarms and avoid unnecessary record triggering.

Multiple Backup Options

A built-in USB port gives you the option of backing up and transferring your video footage using a flash drive or external USB hard drive. You can also connect to an external CD/DVD writer to burn your file footage right onto a compact disc or DVD disc. Files can also be accessed from your DVR system to a remote computer location by logging on remotely.

Connect to a TV or PC Monitor Easily

This system comes with both a VGA and BNC out port to allow you to connect to a TV or 19" or larger VGA monitor for viewing purposes.

User-Friendly LCD Control Functions

Front panel button control allows instant booting up and system standby at the press of a button. LCD monitor can be set to go into energy efficient stand-by mode.

Included Mouse and Remote Control

In addition to front panel button controls, system can also be booted up and put into standby mode using the included remote control or mouse.

Storage Function

Encrypted file format to ensure data security and avoid vicious data modification.

Compression Format

Supports multiple-channel audio and video. Independent hardware decodes the audio and video signal from each channel to maintain video and audio synchronization.

Audio Recording

One channel of audio recording capability.

24/7 Scheduled Recording

Choose which days of the week and hours of the day you want to set your DVR to record or not record.

Multiple Playback Options and Advanced Search Functions

Supports real-time CIF recording on each channel independently. Search through recorded files while you are playing live footage, monitoring through a remote location using a supported internet browsing application and backing up system files. A variety of playback modes include: slow play, fast play, and backward play.

Network Monitoring

Supports network remote real-time monitoring (available bandwidth permitting), remote record search and remote PTZ control.

Communication Ports

- RS485 port can be used for PTZ camera control.
- Standard Ethernet port allows you to access the DVR from a network or the Internet.

PTZ camera control

- Supports PTZ decoder via RS485.
- Supports the PelcoD and PelcoP protocols.

NOTE! Depending on your point of purchase, your DVR may have the hard disk drive already installed. If your drive was packaged separately, or if you wish to upgrade your installed drive up to a 2 Terabyte drive, please see Chapter 7 at the back of this manual which covers installing hard drives.

INSTALLATION AND CONNECTION

CHAPTER 2

Please note that it is important to keep in mind common safety guidelines when installing your DVR or connecting additional devices – including turning off and unplugging your DVR before installing internal components.

POWER

The DVR's power supply plugs into the DC power socket on the back of the DVR. It is absolutely essential that you only use the power supply that came with the DVR to ensure proper operation and to avoid damage.

We also recommend that you use an uninterrupted power supply (UPS) so that the system will continue to operate in the event of a power loss. In addition, you should connect the DVR into a UL-1449 rated surge protector. It should have a joule rating of at least 400, a response time of 10 nanoseconds or less and a clamping voltage of no more than 330 volts.

Your DVR will power up as soon as it is plugged in.

When shutting down the DVR, it is essential that you do so by using the Standby feature within the software or the **Standby** button on the remote control. Once the display goes blank, you may either turn off the surge protector or unplug the DVR.

If you wish to restart the DVR from standby mode, then you may do so by pressing and holding the **Standby** button on the remote control.

USB PORTS

There are two USB ports on the rear panel of your DVR. Either may be used by the mouse with the other port being used by a removable or externa USB drive for file backup and firmware upgrades.

VIDEO DISPLAY

Depending on the model, your DVR can output video to either a standard VGA monitor, television or HD display. The monitor is connected via a VGA monitor cable (not included) to the **VGA** port on the rear of the DVR. The television is connected to the BNC Video Out port on the DVR's back panel through the use of the a BNC (Male) to RCA (Female) adapter cable (**Picture 2-1**) which is included with some models. This plugs into the RCA **Video In** port on the back of the television.

PICTURE 2-1

Another type of BNC to RCA adapter is shown in **Picture 2-2**. This also attaches to the DVR's **Video Out** port but requires a user-supplied standard RCA cable to connect from it to the RCA **Video In** port on the back of the television.

PICTURE 2-2

For DVRs featuring an HDMI® port on the back panel, use the included HDMI® cable (**Picture 2-3**) to connect to an HD monitor or television.

PICTURE 2-3

It is possible to connect more than one displays to the DVR at the same time using the different video ports, however they will all show the same images and they cannot be combined. The menu and mouse cursor will appear on every display simultaneously.

IMPORTANT! The default resolution of this DVR is 1024 x 768 pixels. Some monitors smaller than 19" may not display video properly.

AUDIO

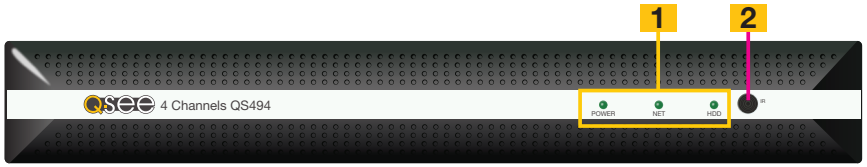
Your system has one or more inputs to allow you to record sound to accompany the video recording from a camera. This can be accomplished using either an audio-equipped camera or a microphone co-located with the camera such as Q-See's QSPMIC (**Picture 2-4**). The RCA-style audio plug from the camera must be plugged into the correct port on the back of the DVR in order for the sound to be recorded to the correct video track.

On DVRs with a single **Audio In** port, this audio port will record sound to the first camera only. Therefore, it is important to make sure that the camera covering the area of the microphone is also plugged into the first **Video In** port. Systems with two **Audio In** ports will record sound to Channels 1 and 2 only. If your DVR features multiple audio input ports, they are numbered to correspond with the channel of the same number.

PICTURE 2-4

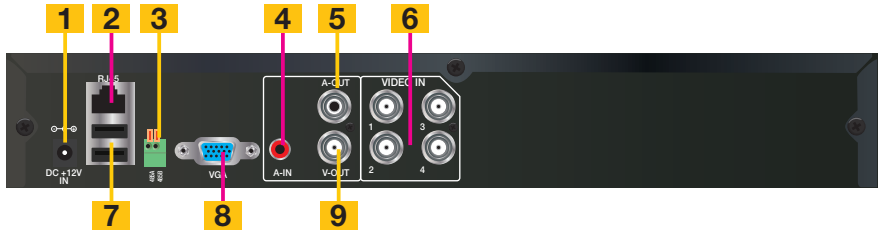
QS494

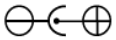
FRONT PANEL



Item #	Name/ Symbol	Description
1	LED INDICATORS	Shows status of hard drive, network, and whether the DVR is currently recording.
2	IR SENSOR	IR Receiver for remote control.

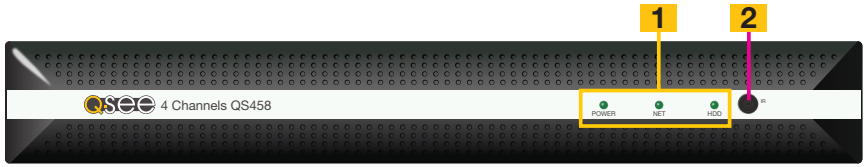
REAR PANEL



Item #	Connector	Description
1		DC 12V/3A Power Connection
2	NETWORK	For connecting Ethernet cable
3	RS485	RS485 for connecting PTZ 485A is “Positive” and 485B is “Negative”
4	AUDIO IN	RCA audio input for connecting audio signal
5	AUDIO OUTPUT	RCA connector for output to amplified speaker
6	VIDEO IN	4 BNC video inputs for connecting analog video cameras
7	USB	2 USB ports for a mouse and external USB drive
8	VGA OUTPUT	To connect to VGA monitor
9	VIDEO OUT	Video output for connecting TV (BNC)

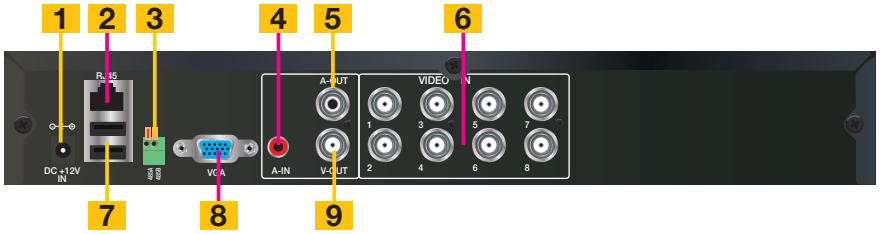
QS458

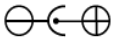
FRONT PANEL



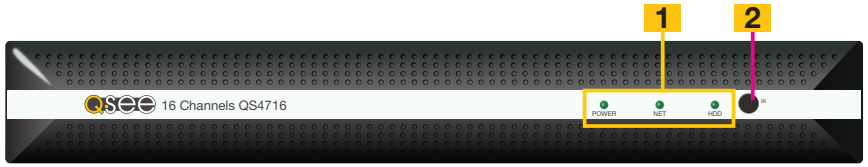
Item #	Name/ Symbol	Description
1	LED INDICATORS	Shows status of hard drive, network, and whether the DVR is currently recording.
2	IR SENSOR	IR Receiver for remote control.

REAR PANEL



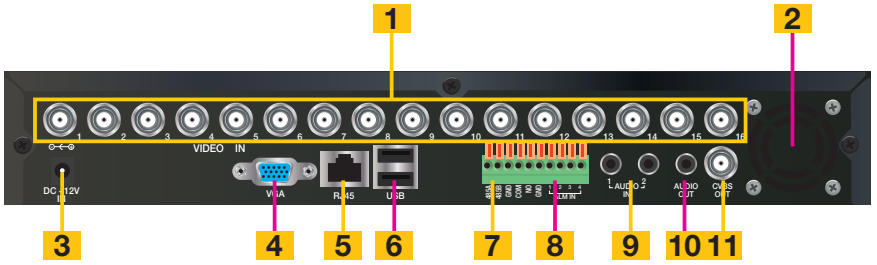
Item #	Connector	Description
1		DC 12V/3A Power Connection
2	NETWORK	For connecting Ethernet cable
3	RS485	RS485 for connecting PTZ 485A is “Positive” and 485B is “Negative”
4	AUDIO IN	RCA audio input for connecting audio signal
5	AUDIO OUTPUT	RCA connector for output to amplified speaker
6	VIDEO IN	8 BNC video inputs for connecting analog video cameras
7	USB	2 USB ports for a mouse and external USB drive
8	VGA OUTPUT	To connect to VGA monitor
9	VIDEO OUT	Video output for connecting TV (BNC)

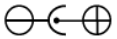
QS4716
FRONT PANEL



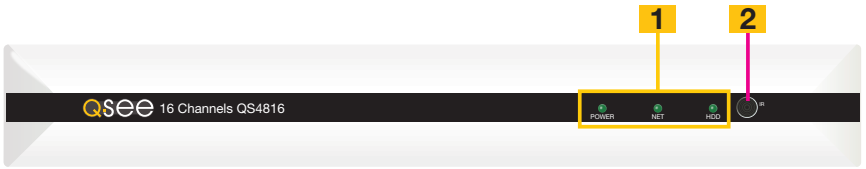
Item #	Name/ Symbol	Description
1	LED INDICATORS	Shows status of hard drive, network, and whether the DVR is currently recording.
2	IR SENSOR	IR Receiver for remote control.

REAR PANEL



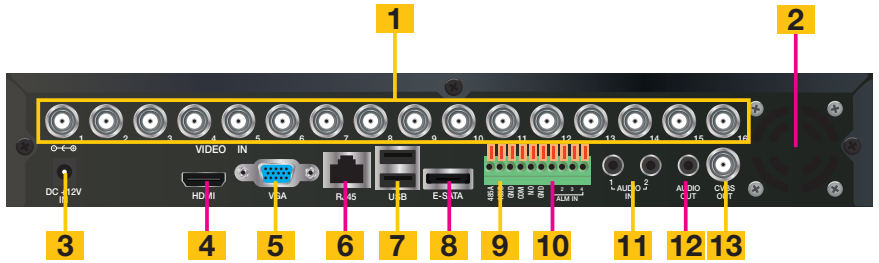
Item #	Connector	Description
1	VIDEO IN	16 BNC video inputs for connecting analog video cameras
2	FAN	Cooling fan exhaust port. This should not be blocked.
3		DC 12V/3A Power Connection
4	VGA OUTPUT	To connect to VGA monitor
5	NETWORK	For connecting Ethernet cable
6	USB	2 USB ports for a mouse and external USB drive
7	RS485	RS485 for connecting PTZ 485A is “Positive” and 485B is “Negative”
8	ALARM INPUT	8 I/O Alarm input
	ALARM OUTPUT	I/O Output for alarm
9	AUDIO IN	2 RCA connectors for microphones
10	AUDIO OUTPUT	RCA connector for output to amplified speaker
11	VIDEO OUT	Video output for connecting to TV (BNC)

QS4816
FRONT PANEL



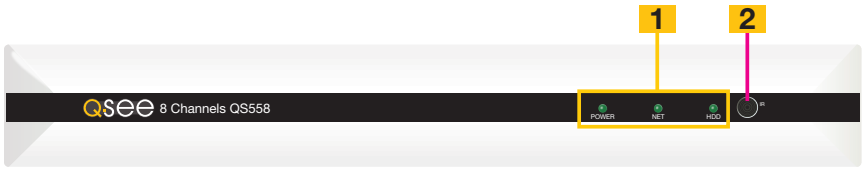
Item #	Name/ Symbol	Description
1	LED INDICATORS	Shows status of hard drive, network, and whether the DVR is currently recording.
2	IR SENSOR	IR Receiver for remote control.

REAR PANEL



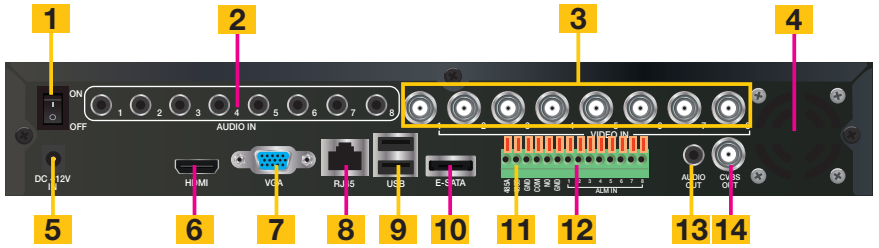
Item #	Connector	Description
1	VIDEO IN	16 BNC video inputs for connecting analog video cameras
2	FAN	Cooling fan exhaust port. This should not be blocked.
3	⊖⊂⊕	DC 12V/3A Power Connection
4	HDMI®	To connect to a HD display
5	VGA OUTPUT	To connect to VGA monitor
6	NETWORK	For connecting Ethernet cable
7	USB	2 USB ports for a mouse and external USB drive
8	E-SATA	To connect to an external SATA drive.
9	RS485	RS485 for connecting PTZ 485A is “Positive” and 485B is “Negative”
	ALARM INPUT	8 I/O Alarm input
10	ALARM OUTPUT	I/O Output for alarm
11	AUDIO IN	2 RCA connectors for microphones
12	AUDIO OUTPUT	RCA connector for output to amplified speaker
13	VIDEO OUT	Video output for connecting to TV (BNC)

QS558
FRONT PANEL



Item #	Name/ Symbol	Description
1	LED INDICATORS	Shows status of hard drive, network, and whether the DVR is currently recording.
2	IR SENSOR	IR Receiver for remote control.

REAR PANEL



Item #	Connector	Description
1	Power Switch	Turn the DVR off after shutting it down from the Menu.
2	AUDIO IN	8 RCA connectors for microphones
3	VIDEO IN	8 BNC video inputs for connecting analog video cameras
4	FAN	Cooling fan exhaust port. This should not be blocked.
5	DC 12V	DC 12V/3A Power Connection
6	HDMI®	To connect to a HD display
7	VGA OUTPUT	To connect to VGA monitor
8	NETWORK	For connecting Ethernet cable
9	USB	2 USB ports for a mouse and external USB drive
10	E-SATA	To connect to an external SATA drive.
11	RS485	RS485 for connecting PTZ 485A is “Positive” and 485B is “Negative”
12	ALARM INPUT	8 I/O Alarm input
	ALARM OUTPUT	I/O Output for alarm
13	AUDIO OUTPUT	RCA connector for output to amplified speaker
14	VIDEO OUT	Video output for connecting to TV (BNC)

CONTROLS CHAPTER 3

This DVR can be controlled through the USB mouse or with the remote control. We have found that the majority of our customers prefer to operate their DVRs using the USB mouse because of its ease of use and flexibility and our manual is set up with this in mind. For your convenience, we also include a remote control which allows you to perform most of the day-to-day functions from a distance. It functions as a typical remote control with additional buttons allowing you to navigate through menus and control functions. We recommend that you configure your DVR using the mouse controls, reserving the remote control for operations such as live viewing, file search and playback. For the purposes of this manual, instructions will be given for using the mouse but the other modes are also presented in this chapter.

3.1 MOUSE CONTROL

The mouse operates in a manner similar to how it is used on a conventional computer; point-and-click, right-click, double click and so on. How these functions are used is based on the context of where they are used. Some examples are:

LEFT CLICK:
- Selecting an item
- Opening a menu
- Checking a box or motion detection status
- Selecting letters, numbers or symbols on the virtual keyboard.

DOUBLE CLICK:
- Selecting an event for playback
- Selecting a screen to zoom into from multi-screen mode

RIGHT CLICK
- Exits any window. Exits any menu or reopens previous menu.
- Hides/reveals **Control Bar**

PICTURE 3-1

CLICK-AND-DRAG
- Select motion detection zone
- Select privacy mask zone

VIRTUAL KEYBOARD

The virtual keyboard is contextual. For example, it will only show digits when the field is for numeral entries. In fields where letters and symbols can be entered, users can switch between the two keyboards by using the **Shift** key.

Available keyboards include:

Numbers Only

Lower Case and Numbers

Upper Case and Symbols

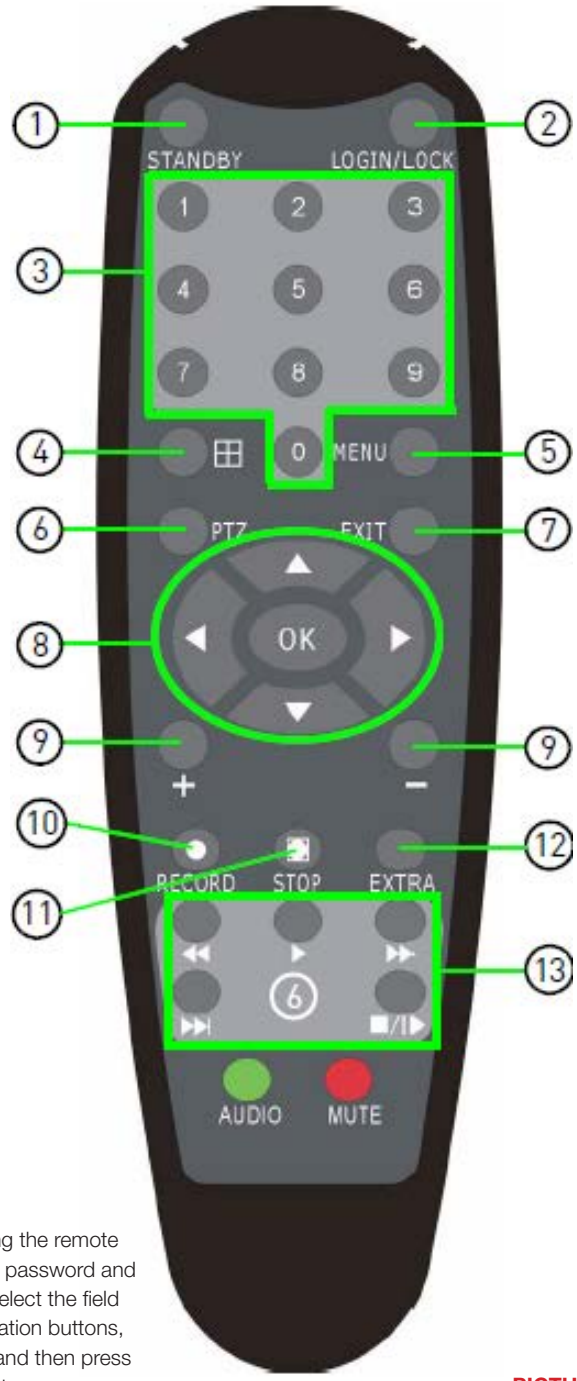
PICTURE 3-2

The keyboards are used by clicking on the desired character. Characters are deleted with the **Backspace** key. To finish entering your text, click the **Enter** key. To finish entering digits in the **Numbers Only** keyboard, click the ↵ key. Clicking outside of the keyboard will close it.

3.2 REMOTE CONTROL

The buttons on the Remote Control operate in the same manner as on a conventional DVR remote. Some buttons have multiple functions depending on which menu is being accessed.

#	Name/Symbol	Function
1	STANDBY	Press to turn standby mode ON/OFF.
2	LOGIN/LOCK	If “Security” has been enabled in the Setup menu, press to open the user password login screen.
3	Number/Channel buttons	While in menus, press buttons 0~9 to enter values; during live viewing, press to view channels full-screen.
4	⊞	Press to switch between quad and full-screen displays.
5	MENU	Opens the main menu.
6	PTZ	Press to open the PTZ control window.
7	EXIT	Close menu windows.
8	Navigation/OK:	
	▲/CH+	Move cursor in menus up; Channel Up.
	▶/FWD	Move cursor in menus to the right
	◀/REW	Move cursor in menus left
	▼/CH-	Move cursor in menus down; Channel down.
	OK	In menus, press to confirm selections; during playback and preview, press to view system information
9	+/ - : In menus, press to adjust values.	
10	RECORD: Press to start manual recording.	
11	STOP: Press to stop manual recording.	
12	EXTRA: For future use.	
13	Playback controls:	
	◀◀	Increase reverse playback speed 2X, 4X, 8X
	▶	Press to start playback
	▶▶	Press to increase forward playback speed 2X, 4X, 8X
	▶▶|	Press to slow playback speed by 1/2, 1/4, 1/8
	■|▶	Press to freeze playback to one frame, then press again to advance frame-by-frame



TIP: When using the remote control to enter password and camera titles, select the field using the navigation buttons, press ENTER, and then press the number buttons.

PICTURE 3-3

BASIC OPERATION CHAPTER 4

This chapter is intended to help you get your DVR up and running before you activate any advanced features which are covered in later chapters. You can use the mouse, remote control and the buttons on the front of the DVR to operate your system, but for convenience, we will be discussing operations using the mouse.

4.1 POWER ON/OFF

Connect the power cable to the DC power port on the rear panel. It will power up when connected to a power source.

At startup, the system performs a basic system check and runs an initial loading sequence. After a few moments, the system loads a live display view.

STANDBY MODE

The system can be put into Standby Mode. Power will remain to the system but will not be recording. This is done through the **Maintenance** window and will be covered at the end of **Chapter 5** you will need to push and hold the **Standby** button on the remote to resume use of the DVR.

SHUTDOWN

When the DVR will not be in use for an extended period of time, it is recommended that you shut it down completely. To do so, you will first need to put it into standby mode which is located in the **Maintenance** menu. This will stop recording and idle the hard drive. Once the DVR has gone into standby, turn off the power - preferably by turning off the surge protector that it is plugged into.

IMPORTANT! To protect your system, you should always power down the DVR as described above before unplugging it or using the power switch.

4.2 SYSTEM LOGIN

By default, the DVR will display the live video from one or more cameras after starting up. In order to access the features, including playback of recorded video, you will need to log into the system.

The **Login** window will appear whenever a user attempts to access the DVR while not being currently logged in - whether to an extended period of inactivity or by having previously logged out.

By default, passwords are disabled on the system. You do not need to enter a password when accessing any system menus. This is done as a convenience to assist in setting up your system.

PICTURE 4-1

The default user name is ***admin*** and the password is blank (no password). Just click **Apply** Once you have completed setting up your DVR, it is highly recommended to enable passwords on the system using the **Password** menu in order to secure your system.

4.3 CONTROL BAR

The Control Bar gives direct access to many of the system's functions, features and options without having to go through a series of intermediate steps. It appears at the bottom of the screen and can be hidden or revealed by right-clicking the mouse. It will disappear when a menu is opened and reappear after all menus are closed.

PICTURE 4-2

	Start	Opens the Main Menu
	Single Screen	Select a single channel to view
	Multi-Channel View(s)	View multiple channels on-screen at the same time. The number of options varies by model.
	Color Adjust	Adjust the appearance of the video on the screen. This does not affect the recorded video.

	Digital Zoom	Digitally enlarge a section of the video
	Volume	Adjust volume (requires audio source)
	PTZ Controls	Opens PTZ camera controls
REC	**Record**	Starts and stops manual recording
	Playback	Opens the video search and playback window

4.4 MAIN MENU

To access the **Main Menu**, click on the Start button in the Control Bar. If the Control Bar is not present, right-clicking on the screen will make it appear.

The **Main Menu** is the primary means of accessing the full set of functions of the DVR. This is in addition to the shortcuts to specific features through the **Control Bar**. Right clicking with the mouse will close the **Main Menu** window and return to the **Live View** mode.

PICTURE 4-3

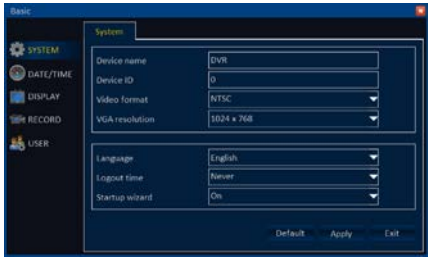
4.5 BASIC MENU

As its name implies, this is where most of the basic settings are made to configure your DVR to your needs. The **Setup Wizard** made many of these automatically and you were asked to fill out certain fields, such as date and time during that process. You can adjust or add to these settings within the various submenus shown on the left side of the **Basic** menu.

You will need to click on **Apply** to save your changes in each submenu. Right-clicking will close the window without preserving your changes, as will clicking on the **Exit** button. **Default** will restore factory settings only to the submenu that you are currently in.

SYSTEM

This area allows you to name your DVR (useful in situations where you own more than one), adjust the resolution and format, set your desired language and when - or whether - the DVR will log you out due to inactivity. If the Startup Wizard is not set to **Off**, you should change it to that status at this time to avoid having to go through it when the DVR restarts.



PICTURE 4-4

If you are in North America, you should not change your video format from the NTSC standard. Other regions, including Europe, along with Brazil, Argentina and Uruguay in South America use the PAL format. Video mode does not make a difference if you are using a VGA monitor.

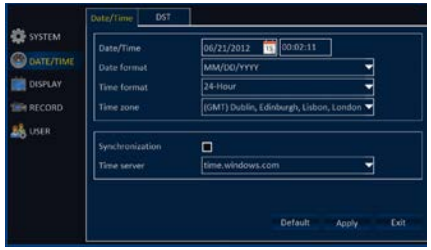
The DVR will take a moment to switch languages if you chose to change.

DATE/TIME

There are two tabs in this submenu.

Date/Time

This tab allows you to set the date and time along with the format you wish both to be displayed. You can chose between a traditional 12-hour clock, or a 24-hour version (commonly referred to as military time).



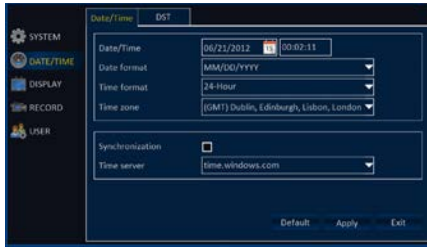
PICTURE 4-5

If you did not select your time zone during the Startup Wizard process, you may do so now. If you are uncertain of your time zone, you can find it at ***http://www.worldtimezone.com***

Synchronization allows you to use an Internet time server to keep your DVR's internal clock accurate, much in the way that your computer uses one. Use of this feature requires that the DVR is connected to the Internet.

DST

Use this tab to configure your DVR to automatically adjust for Daylight Savings Time if your region uses it.



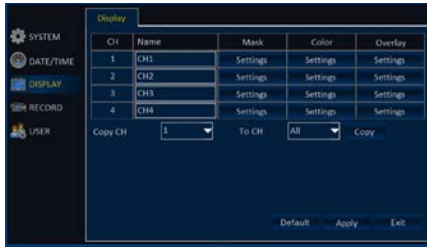
PICTURE 4-6

You are able to set the start and end dates based on whether the time changes on a specific date or on a certain week within a month. For example, as of this writing, DST begins on the second Sunday of March and ends on the first Sunday of November in most parts of the U.S. and Canada.

You must click **Enable** to activate this feature.

DISPLAY

This menu will be discussed in detail in the next chapter, but you may chose to name your cameras in a manner more convenient to you at this time.



PICTURE 4-7

RECORD

Your DVR is factory set to record when motion is detected. Adjusting your recording method an schedule is discussed in **Section 4.6 Recording** immediately following.

USER

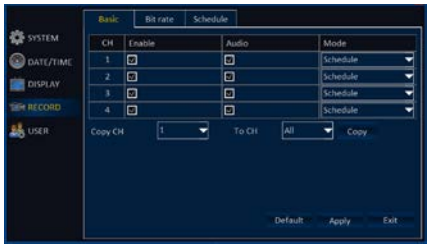
Adding, editing and deleting user accounts will be covered in **Chapter 5**.

4.6 RECORDING

The fundamental purpose of your DVR is to view live cameras as well as to record events as they happen. This section covers how to configure the settings to best suit your requirements. Since each user's needs are different, we will provide information on the options available which you may combine as you need.

Basic Tab

By default, your DVR is configured to record when motion is detected. Each camera is enabled as is audio recording. Audio tracks will only be added to the video if you have microphones or audio-enabled cameras connected to your DVR.



PICTURE 4-8

The recording mode is set for **Schedule** which allows it to follow the schedule set up under that tab (discussed below). The other option is to enable the cameras to record all the time.

You can copy settings in this tab from one camera to another using the **Copy** button. Be certain to click **Apply** to save any settings you make in this tab.

Bit Rate Tab

This tab controls the quality of the video recorded by the cameras. The resolution, frame rate and physical quality of the recordings may all be adjusted. The factory settings are optimized to best balance quality with the amount of space required to store recorded videos.

Resolution - D1 resolution is 704x480 pixels

Framerate - Smooth, "real-time" video footage moves at 30 frames per second (fps). A lower frame rate generates jerkier movement, but it requires less disk space.

PICTURE 4-9

Quality - This ranges from "Normal" to "Best" with increasing levels of image clarity. Each improved level requires more storage space on the hard drive.

You may copy the Bit Rate settings from one camera to others. Simply select which camera to use as the source and which camera(s) to apply the settings to and then click on the **Copy** button.

Schedule Tab

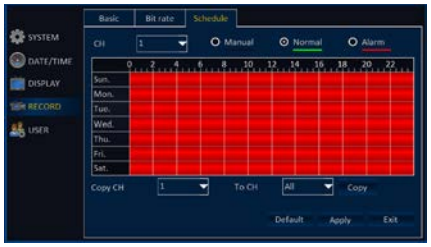
As stated earlier in this section, your DVR is configured to record when motion is detected 24/7. The **Schedule** tab reflects this with the weekly schedule filled completely with red signifying that it is set to record on **Alarm**. This schedule setting not only saves disk space, but makes it easier to locate recordings of events when they do occur because there is much less video that needs to be searched through.

The different recording modes are color coded:

	Manual	DVR will not record unless user begins it by clicking on the Record button in the Control Bar or on the remote control
	Normal	DVR records continuously
	Alarm	DVR will only record when motion is detected

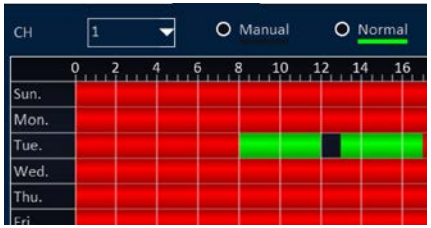
You can alter the schedule, including the type of recording mode, by selecting the desired mode and then clicking and dragging in the desired area of the schedule with the mouse. The area will fill with the color indicating the recording mode for that time.

Mistakes can be corrected by selecting a different recording mode and changing the block of time back to the desired mode.



PICTURE 4-10

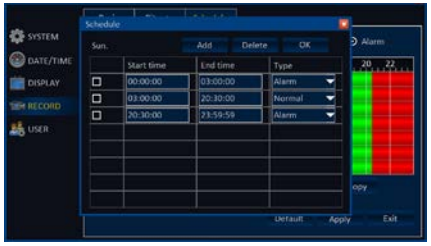
In **Picture 4-11** at right, the DVR has been set to record continuously (green) during the period of time between 8am and 5pm (1700 hours) on Tuesdays with the exception of the 12 noon and 1pm (1300 hours) which has been set to Manual (black). The rest of the time, the schedule is set so that the DVR will record when an event is detected (red).



PICTURE 4-11

Each camera is configured separately, but you may copy the schedule from one channel to another by selecting the camera with the desired schedule as well as which camera - or all cameras - to which you want to apply the schedule. Click **Copy** and the other cameras will have the same schedule.

For more precise schedule setting, you may double-click on a day's bar and a Schedule pop-up window will appear allowing you to set the recording mode along with the start and end times. Add or delete scheduled blocks using the appropriate button.



PICTURE 4-12

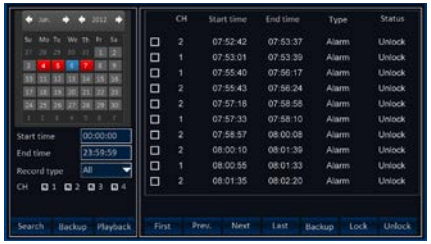
4.7 PLAYBACK

Once your DVR records video, the next step is search for - and play back - specific events. There are two methods available to play back files. Clicking on the **Playback** arrow at the far right of the **Control Bar** will begin playback of the day's recordings. However, if you are looking for files recorded on a different day, or want to find a specific recording, clicking on the **Search** icon in the **Main** menu will open the **Video Search** window.

Video Search

The **Video Search** window provides a pair of options to retrieve files for viewing.

The calendar will highlight the current date in blue and will use red to highlight other days that contain video recordings.



PICTURE 4-13

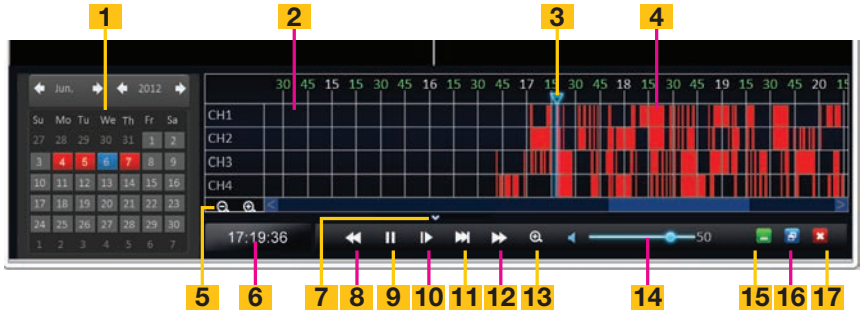
Clicking on Playback will cause the DVR to start playing back all the recorded files from that day beginning with the earliest one recorded. If more than one camera has video, the multi-channel views will show the playback from each camera in synch with the playback from others.

You may also narrow your search by selecting the hours to search between as well as the type of recording - **Regular** or **Alarm** using the pull downs under the calendar. Additionally, you may limit your search to only select cameras.

Once you've set your options, you may double-click on the date in the calendar or on the **Search** button below it to reveal a list of video files in the right side portion of the window that match your criteria. Each listing will show the starting and end times, the type of recording and whether the file has been locked to prevent erasure. Only a limited number of files will appear at a time. Click on **Prev.**, **Next**, **Last** or **First** to navigate through the "pages" of files. Double-click on the desired file to begin playback which will occur in a new window.

Playback Shortcut

Clicking on the arrow at the far right of the Control Bar will open the Playback window and the system will begin playing the first video(s) recorded that day.



PICTURE 4-14

No.	Item	Function
1	Calendar	Select the date to search
2	Time Scale	Shows the time videos were recorded on each channel
3	Playback Progress Fence	Shows location of playback within the records. This may be moved forward or back.
4	Files	Red areas indicate files triggered by events. Green areas are files that were recorded when the channel was set to regular.
5	Increase/Decrease Time Scale	Zooms Time Scale to allow more precise selection of video files
6	Recorded time	Shows when the currently playing file was recorded
7	Minimize/Maximize	Clicking this will hide or reveal the Time Scale and Calendar while leaving the playback controls on screen.
8	Fast Rewind	Plays video backwards at normal or 2, 4, or 8x speed
9	Play/Pause	Pauses and restarts playback
10	Frame Advance	Moves playback forward one frame
11	Slow Advance	Plays video forward at 1/2, 1/4 or 1/8 speed
12	Fast Advance	Plays video forwards at 2, 4, or 8x speed
13	Digital Zoom	Zoom into a video
14	Volume	Will only affect channels with recorded audio
15	Hide Playback Controls	Hides Playback Controls, Calendar and Time Scale. Right clicking will reveal them.
16	Minimize/Maximize	Clicking this will hide or reveal the Time Scale and Calendar while leaving the playback controls on screen.
17	Close Playback	Ends playback and returns to Video Search window or Live View depending on the method used to launch the Playback Window

4.8 FILE MANAGEMENT

When you record an important event, you will want to ensure that it does not get erased by accident. You will likely also want to back it up onto another device where it can be shared with others, including law enforcement if need be. Managing your files takes place in the same **Record Search** window as used for locating files for playback.

LOCKING AND UNLOCKING FILES

Your DVR is configured to overwrite old files when the hard drive is full. While you have the option to disable this feature, it means that your DVR will stop recording new video when the drive reaches capacity. Depending on the size of your hard drive, and the amount and size of your recordings, it will generally take at least several days to a month before your drive is full.

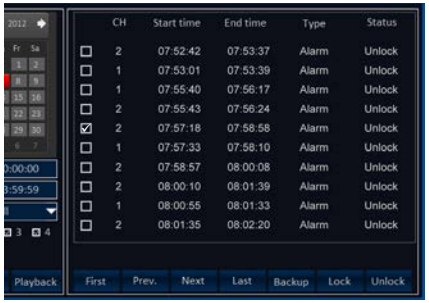
In order to preserve important files on your drive and to prevent them from being overwritten, you may lock them. When a file is locked, it can also not be erased accidentally. It must be unlocked before it can be deleted. Please note that if the hard drive is erased or reformatted ALL files will be deleted regardless of whether they were locked.

When you perform a file search using the **Search** button below the **Calendar** as described in the previous section, a list of files conforming to your search criteria will appear in the right side of the window.

You can double-click on a file to play it back in order to verify that it is the desired recording and then right-click to return to the list.

To lock this, or other files, click in the check box to the left of the file name. Click **Lock** and the file's status will change to Locked.

To unlock a file, simply repeat the process, checking the box to the left, and click **Unlock**. The file will not be deleted, but will be overwritten as the DVR records new files.



PICTURE 4-15

BACKING UP FILES

File backup is handled much in the same way as selecting files for playback and is done through the **Record Search** window. There are two methods available; backing up all files recorded within a given day, and backing up only selected files.

No matter which method, backing up files requires that a USB drive - either removable flash USB or external USB hard drive - to be connected to the USB port on the rear panel of the DVR that is not being used by the mouse.

Files will be saved into a folder entitled **RecordFiles** and will be saved in the .avi format. This common file type is usable on both Macintosh and Windows PCs using readily-available playback software, including Windows Media Player, QuickTime, DiVX and others.

File names will be saved with a long file name showing channel, date, start time and duration such as: **CH01-20120607-075719-000125.avi**.

The first set of characters is the channel name - Channel 1.

The second group is the date - 6/7/2012.

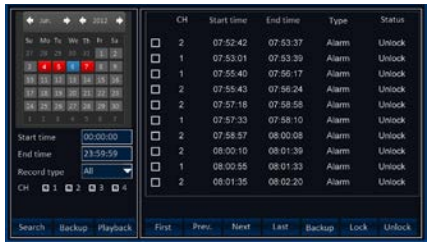
The third group of numbers is the start time - 07:57:19 AM.

The last set of digits is the length of the recording - 1 minute, 25 seconds.

Back Up All Files for a Date

To back up all files recorded on a certain date, make sure that a USB drive is connected to the back of the DVR.

Click on the desired date on the **Calendar** and then click on the **Backup** button below the **Calendar**. A status window will open asking you to wait as the files are backed up. You may remove the drive after the window indicates that the transfer is complete.



PICTURE 4-16

Backing up Select Files

This operates in the same manner as searching for files to lock. Connect a USB drive

Select the date and, if desired, a range of time to search.

Click on **Search** to create a list of files in the right portion of the window.

Put a check mark in the box to the left of the desired files.

Click on the **Backup** button below the list to start the transfer. A window will open to confirm that files are being transferred. You may remove the USB drive after the window says that the backup is complete.

ADVANCED OPERATION CHAPTER 5

The previous chapters covered information needed to help you set up and operate the essential functions of your DVR. This chapter will provide information covering more advanced features to enable you to get the most out of your system.

To allow you to easily locate information about a feature, they will be listed in the order they appear within the menus. Most of the features within the Basic and Search menus were covered in the previous chapter so please refer to that section of the manual for information on the Recording, Playback, File Management, and Basic configuration. Information on connecting ad operating PTZ cameras will be included in its own chapter.

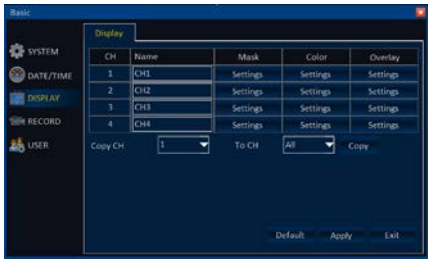
5.1 BASIC MENU

Most of the features within this menu were covered in **Chapter 4** with the exception of display settings and user management which will be covered below.

DISPLAY

Camera Name

As mentioned earlier, you can rename your cameras to a more convenient title, such as the location of the camera, should you wish, by clicking in the name field for a camera and then using the Virtual Keyboard to enter the new name.



PICTURE 5-1

Mask

This allows you to block off, or mask an area of the camera's view. This could be to hide an access keypad, or combination, for example. Masked areas will not be shown on the live view or in the recorded video file.

Select the Settings button under Mask for the channel you wish to mask. You will see a live view from that camera. Click and drag over the area you wish to block out. You may mask up to four areas.

Click **Apply** to save your areas. Clicking **Clear** will remove all masks from that channel. You can switch to another camera within this menu or return back to the **Basic** menu.

PICTURE 5-2

Color

You can adjust the appearance of your camera's feed on your monitor using these controls. It will not effect the video that's recorded onto your hard drive.

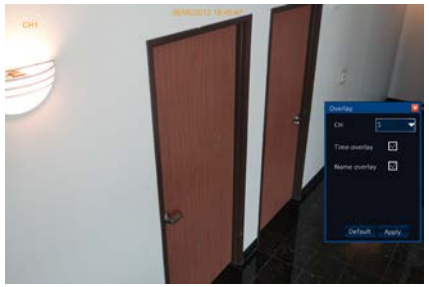
PICTURE 5-3

Overlay

You can adjust the position of the channel name and time stamp on your live feed and recorded video. You may also turn off either or both using this interface.

Click on the **Settings** button below **Overlay** for the camera you wish to modify.

You can turn off the time stamp and channel name individually by unchecking their box. You may also click and drag the displays to a new position. Clicking Default will restore them back to their original location.



PICTURE 5-4

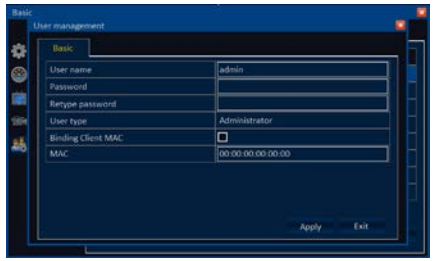
USERS

Your system comes with one administrator account already set up. If you will be the only person operating this system, you will only need this one as it has been configured to have permission to access and control every function and feature on the DVR.

IMPORTANT! To ensure the security of your system, you should create a password for your admin account at this time.!

Setting Admin Password

The admin account does not come with a password so it is up to you to create one. Simply double-click on the admin account name and a window will open up allowing you to enter the password. Enter it twice and click Apply to set it. Your password should be something you can easily recall. If you write it down, store it in a location away from the DVR.

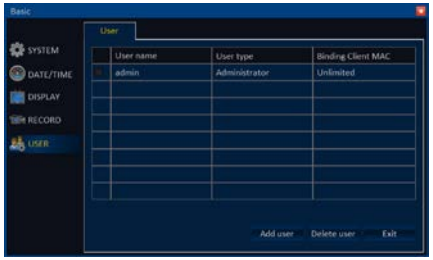


PICTURE 5-5

Adding, Editing and Deleting Users

If you wish to allow someone else to use your system, it is recommended that you give them their own user account. You can have a total of five user accounts, including the admin account - which is the only administrator-level account permitted. The admin account may not be edited or deleted, but you can limit other user accounts to what they can or cannot see, control or change on the DVR. You may only change user permissions while logged into the admin account.

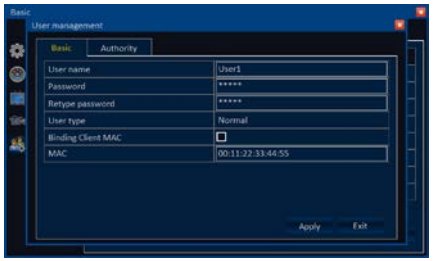
To add an account, click on **Add user**.



PICTURE 5-6

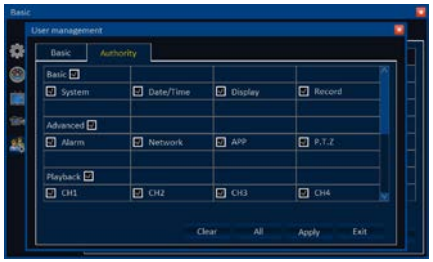
Enter the user name and password for your new account.

Binding Mac Client is used to limit remote access by a user to a specific computer. This is generally reserved for advanced users. You will need to determine the MAC address of the computer that will be used, and enter that address in the field provided.



PICTURE 5-7

Once you've created a new user account, you can restrict what options that user is able to access. For instance, you can allow one user the ability to only view live feeds from specific cameras, while giving another user authority to view all the cameras and play recorded video, but not allowing either the permission to change the recording mode or schedule.



PICTURE 5-8

Click **Apply** to save your new account and permissions.

To edit an account, simply double-click on its name in the list of users while logged in as admin and make your settings. Be certain to click **Apply** in order to save your changes.

To delete an account, check the box next to it in the list and then click on **Delete**.

5.2 ADVANCE MENU

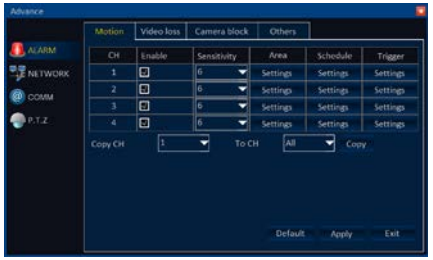
The settings within this menu cover how your camera interacts with the world around it - what events are triggered when it detects motion, or how you can access it remotely.

ALARM

Your system considers events such as motion detection, drive failure and video signal loss to be alarms.

Motion

This is the default method used by the DVR to record events and these settings do not need to be altered in most cases. However, certain situations will require some modification to avoid issues such as excessive alarms.



PICTURE 5-9

A camera will record when the **Enable** box next to it is checked.

Sensitivity can be adjusted to determine how much motion will cause recording to begin. The sensitivity ranges from 1 (most sensitive) to 8 (least sensitive). Reducing sensitivity can lower the number of false alarms caused by swarming insects, for example.

You are also able to turn off motion detection in certain areas of a camera's view using the **Area** setting.

Clicking on Settings will bring up a live view from the chosen camera overlaid by a grid of green boxes. Clicking and dragging will turn boxes gray, disabling motion detection.

Clicking a gray box will return it to green. Right-Click to exit.

PICTURE 5-10

In the case of **Picture 5-10**, recording will not be triggered when someone walks down the hall at the bottom of the stairs, but recording will be triggered if someone climbs them.

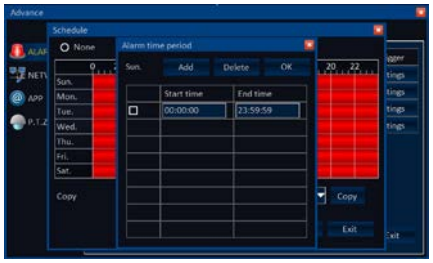
You can also use masking to block out items such as flags or busy roads to prevent false alarms.

The **Schedule** function is similar to the one used to set up the recording schedule (covered in **Section 4.6 Recording**), but this controls the alarm response only. You can set the alarm to be on or off during specific periods. These responses are set up in the next option, Trigger, and control what actions the DVR will take when motion is detected.

An example of setting an alarm schedule would be to turn off the audible alarm and pop-up message for the period that you are away from the DVR to avoid calling attention to it.

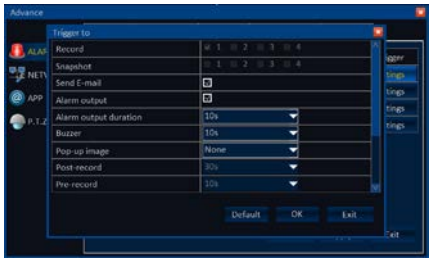
PICTURE 5-11

Like the **Recording Schedule**, double-clicking on a day in the **Alarm Schedule** timeline opens a pop-up window allowing you to make more precise settings.



PICTURE 5-12

In addition to recording when an event takes place, the DVR can also activate, or trigger, other actions. Among these options are an audible buzzer alarm from the DVR itself, sending out e-mail, and beginning recording on other channels. These actions are set in the **Trigger** area of the **Alarm** menu.



PICTURE 5-13

Record - You can have other camera's begin recording even if they did not detect motion.

Snapshot - This is a still image captured by one or more cameras. These can be attached to any alarm e-mail.

Alarm Output - The length of time that the DVR will remain in its "alarm state".

Buzzer - The length of time that the audible alarm will sound.

Pop-up Image - When triggered, the selected cameras live feed will appear in full-screen mode.

Post- and Pre-Record - The amount of time that will be recorded by the camera detecting the event before and after it occurs.

P.T.Z. - If you have a Pan-Tilt-Zoom camera connected to the DVR, you can have it rotate to a preset point or begin a pre-programmed cruise. Please see **Chapter 6 P.T.Z. Cameras** for instructions on utilizing a PTZ camera with your DVR.

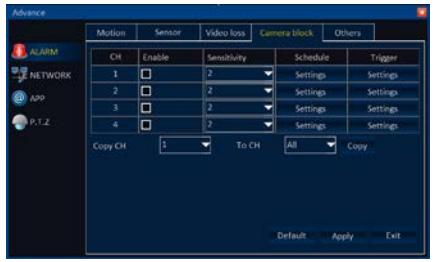
Video Loss

If the DVR detects the loss of video feed from a camera, it can trigger other actions, just as with the Alarm menu.

Camera Block

If the DVR determines that a camera is being blocked, it can also trigger a response in the same manner as the Alarm or Video Loss functions. This function is normally disabled but it may be turned on for individual cameras should your situation require it.

Because certain environmental factors, such as a door that is open during business hours, can block a camera, you are able to adjust the sensitivity and set a schedule to turn off camera blocking as needed. Or, you can disable the function completely, if need. The schedule and trigger functions work as previously described.



PICTURE 5-14

NETWORK

Most of the settings in this menu were made using the Startup Wizard during your initial setup. This chapter is covered in the **Remote Monitoring Guide** that came on the CD included with your DVR. It is also available for download at ***Q-See.com/Support***

COMMUNICATION

As with Network, this menu is covered in the **Remote Monitoring Guide**.

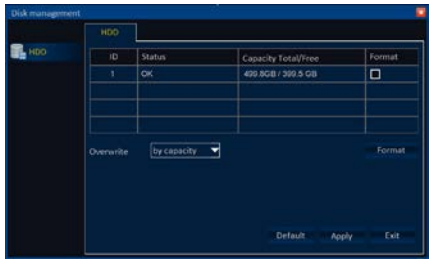
P.T.Z.

Pan-Tilt-Zoom cameras will be discussed in **Chapter 6 P.T.Z. Cameras**.

5.3 DISK MANAGEMENT

This menu allows you to manage and monitor the hard drive(s) mounted within your DVR. You can check drive capacity, set overwrite status and format a new or existing hard drive.

Clicking on this menu from the **Main** menu will show the status of any hard drives mounted in your system. It will show the current capacity and available free space.



PICTURE 5-15

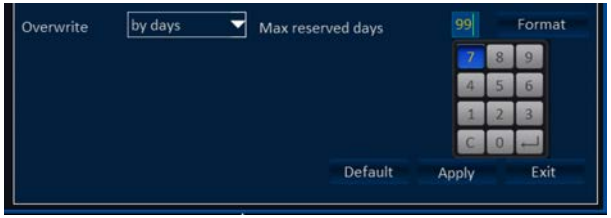
You are also able to format any mounted hard drive by selecting the **Format** box next to the desired drive and then clicking on the **Format** button. Please see **Chapter 7** for instructions on mounting or replacing a hard disk drive.

CAUTION! Formatting the hard drive erases all video data! This step cannot be undone!

OVERWRITE

Like any computer hard drive, saving files - in this case video recordings - will eventually fill it to capacity. When the drive is full, no more files can be written to it and recording will stop. For that reason, the DVR is configured to overwrite older files when it is full. Depending on your settings, drive size and the number of recordings, this can be as soon as a week to a month. You can lock critical recordings in the Search menu as shown in **Section 4.8 File Management**. This means that the DVR will record around them until you unlock them.

Another option is to set the DVR to overwrite after a certain number of days. Select this option from the pull-down and then set the desired maximum number of days (up to 99). You will need to use the "**C**" key in the **Virtual Keyboard** to clear the current settings. Be aware that if your drive fills up before that time, your DVR may stop recording.



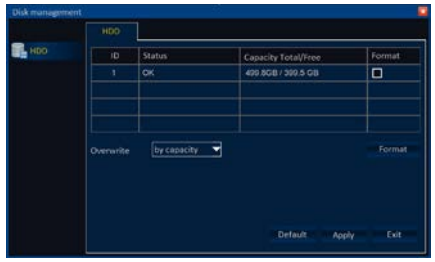
PICTURE 5-16

5.4 INFORMATION

As its name implies, the sole purpose of this menu is to provide information about the status of various aspects of the DVR. With the exception of online users, you will not be able to change anything using this menu.

DEVICE

This window shows the serial number, version of firmware (the software that runs the DVR) and the MAC ID of your system. The Device Name and Device ID may be set in the **System** menu and the MAC ID is set by your network.



PICTURE 5-17

NETWORK

Consisting of two tabs, this menu shows your network status.

LAN

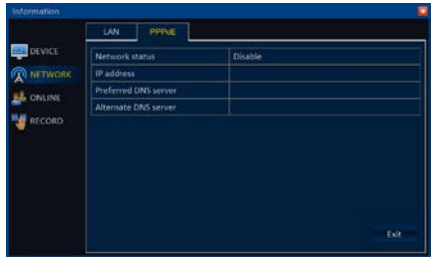
This shows the status of your local area connection (LAN), which is your business or home network centered around your router.

The IP address shown at the bottom is the address used to access your DVR remotely from the Internet (WAN).

PICTURE 5-18

PPPoE

If your DVR is connected directly to your Internet Service Provider (ISP) through a modem, then this window will contain the information regarding your connection. You will need to get this information directly from your ISP and enter it according to the instructions in the **Remote Monitoring Guide**.

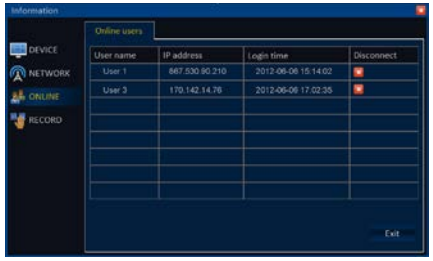


PICTURE 5-19

If you have a more conventional connection through a router, the information windows will be empty.

ONLINE USERS

This shows the users who are connected remotely to the DVR, along with their log-in time and IP address. You can disconnect a user from the DVR temporarily by clicking the red box to the right of their name.



PICTURE 5-20

To block a user permanently, you will need to adjust their privileges in the User menu (see **Section 5.1**).

RECORD

Data regarding the recording quality of your cameras is shown here. The column on the far right is useful in calculating how big a file your recording settings will generate. If disk space is a concern, you can adjust your settings in the **Record** menu (see **Section 4.6 Recording**).

PICTURE 5-21

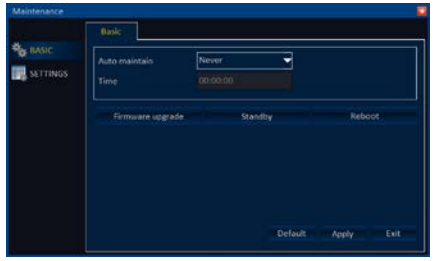
5.5 MAINTENANCE

The options in this menu allow you to update your DVR, restart it, keep it operating at top condition and restore your favorite settings.

BASIC

Auto Maintain

Like a typical computer, your DVR operates at its best if it is restarted every so often. This allows it to clear out temporary files and other useless bits of data that can cause it to slow down.



PICTURE 5-22

Using the pull-down, you can set the DVR to restart monthly, weekly or daily. You are able to further define the restart time and day in the other fields.

Firmware Upgrade

Also like a typical computer, we release occasional firmware updates to address issues or improve functionality. These updates are available for free through our **Help Site** at Q-See. com/Support where they can be downloaded onto your computer and transferred to an empty USB drive which is then placed in the USB port not used by the mouse.

With the USB drive in the port, click on **Firmware upgrade**. The DVR will ask you to confirm before upgrading. After your system has been upgraded, it will restart.

Standby

Standby is a soft power off for the DVR. If **Standby** is selected, and confirmed, the system will stop recording and shut down. This is the preferred method used to turn off the DVR rather than turning it off at the power switch. Once the DVR has shut down, then you may unplug it or turn off the surge protector.

To exit standby mode, you will either need to press and hold the **Standby** button on the remote, or restart the machine.

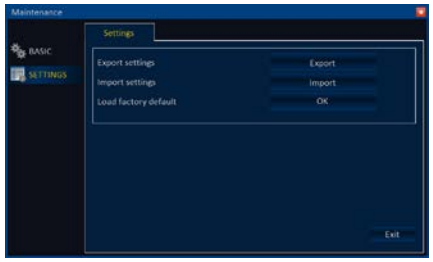
Reboot

This simply causes the DVR to shutdown and restart automatically.

SETTINGS

Unlike computers, the DVR does not store its operating system (firmware) on the hard drive, but instead it stores it on the mother board so your settings will be retained even if you switch hard drives. You are able to backup your settings onto a USB drive much like a video file. This is useful if you are experimenting with optimizing your settings and do not want to start over from the factory defaults if you do not like the results.

You are also able to restore the factory defaults using this menu.

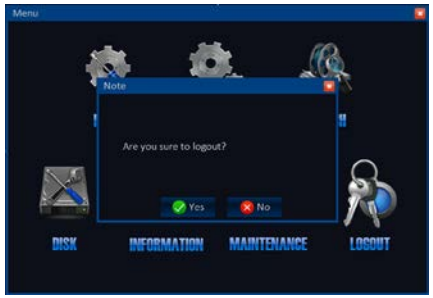


PICTURE 5-23

LOGOUT

It is recommended that you log out from your DVR when you will be away from it for an extended period of time - especially if others have access to your system.

This will not shut down the DVR, but merely require that a user log back in to control the system.



PICTURE 5-23

PAN-TILT-ZOOM CAMERAS

CHAPTER 6

6.1 CONNECTING A PTZ CAMERA

Some QS-Series DVRs can support one or more Pan/Tilt/Zoom, or PTZ cameras. These cameras connect to the DVR through the same ports as a conventional camera, but the control wires connect through the RS485 block on the back of the DVR. **Picture 6-1**, below, is only a representation and your actual connector may look different. Please consult **Chapter 2 Installation and Connection** to find the diagram representing your model for the location of your connector block.

The RS485 connector uses a single-direction protocol meaning that it can send commands out to the camera(s) but not receive any data back from the unit. Video images will be delivered through the video cable as with any other camera.

The DVR is set by default for RS485 to be disabled for each channel. Therefore, PTZ settings must be enabled before PTZ cameras can be utilized. This system supports 26 of the most common protocols including Pelco-D and Pelco-P.

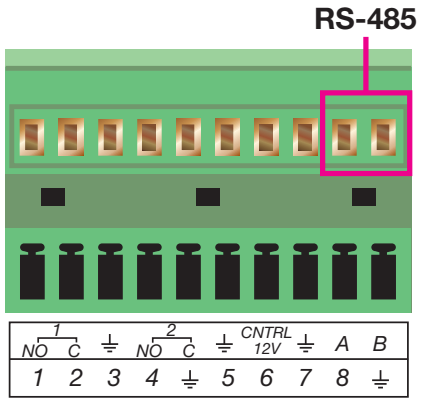
When connecting a PTZ camera, the following should be taken into account:

- The 485 port of this DVR cannot parallel connect with the 485 port of another device
- The voltage between the A and B lines of the camera should be less than 5V.

STEP 1. The data cable from the PTZ camera must be connected to the ports highlighted in **Picture 6-1**. Multiple PTZ cameras can be connected to this port, but you may require an expander port to do so.

STEP 2. Connect the other end of the cable to the proper pins in the connector on the camera

STEP 3. Connect the camera video and power cables as you would any other camera.



PICTURE 6-1

STEP 4. Go to the **P.T.Z** menu within the **Advance** menu.

STEP 5. Choose the correct communication protocol, address and baud rate. See your camera's manual, if needed.

STEP 6. Click **Apply**.

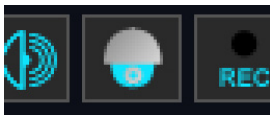
PICTURE 6-2

PTZ Definitions and Descriptions:

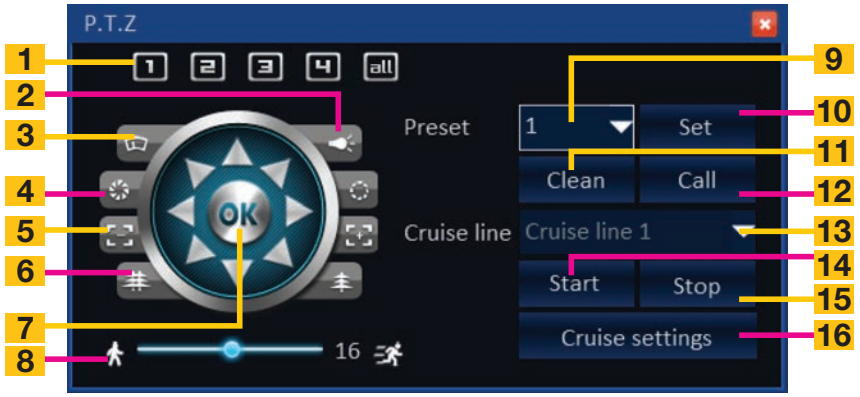
Parameter	Settings	What it Means
Address	1-255	The address of the PTZ camera
Preset Points	1-255	Programmed positions that the camera will point to. Points 1-99 may be configured by the user
Baud Rate	1200-9600	The speed that data is transmitted A lower speed may be needed for longer cable runs
Protocol		The communication protocol used by the camera. Supported protocols are; Pelco-D, Pelco-P, PelcoD1, PelcoD2, PelcoD3, PelcoD4, PelcoP_WJ, ABK2001, ACES-HN, Dragon, EE, HT600, HY, Lilin, Philips, SAE, Samsung, YAAN, YLDVR

6.2 CONFIGURING AND CONTROLLING A PTZ CAMERA

All activities regarding controlling the PTZ camera manually, or setting up automatic cruises, take place in the PTZ control panel located in the Control Bar.



PICTURE 6-3



PICTURE 6-4

No.	Item	Function
1	Channel	Select which channel the PTZ is connected to.
2	Light	Turns on camera's light (if so equipped)
3	Wiper	Turns on camera's wiper (if so equipped)
4	Iris controls	Adjusts light levels
5	Focus controls	Adjusts focus
6	Zoom	Zoom in or out
7	Directional Controls	Click on arrows to move camera in desired direction.
8	Speed	Adjust speed of camera's movement
9	Preset	Choose the Preset Point number.
10	Set Preset	Sets camera's current position as preset point indicated by the number to the left.
11	Clean	Deletes preset point
12	Call	Goes to preset point
13	Cruise Line	Selects a cruise for the camera to follow
14	Start	Begins cruise
15	Stop	Stops cruise
16	Cruise settings	Click to build cruise from preset points.

CONTROLLING THE PTZ CAMERA

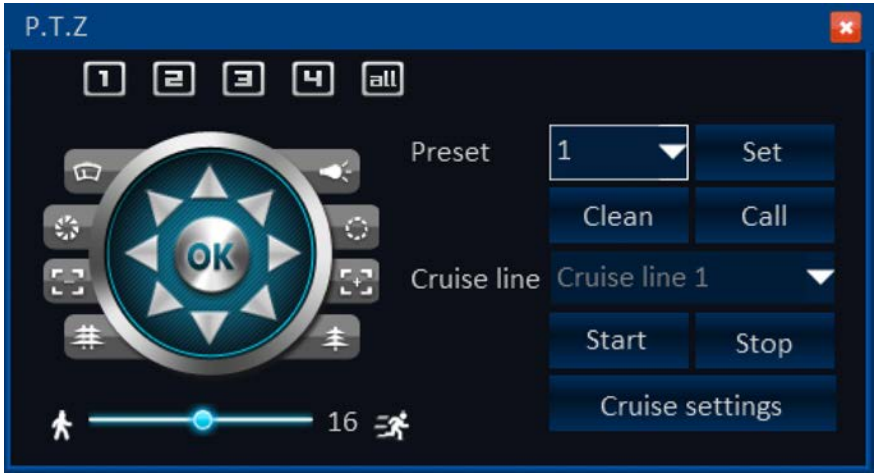
Once the **PTZ Control Panel** is open, you can direct the camera by selecting its channel and using the directional controls. Click and hold to move the camera in the desired direction.

You can adjust the speed of movement using the slider. The **Iris**, **Focus** and **Zoom** controls are paired to either side and allow you to adjust the image by increasing or decreasing their respective functions. Some cameras feature automatic iris and focus controls and those buttons will not affect that camera. Similarly, the **Wiper** and **Light** buttons will not work on cameras without those features.

If the PTZ camera will only be manually controlled, then you may wish to change the recording mode and schedule for manual recording only as every time the camera moves, the DVR will treat that as motion detection.

CONFIGURING POINTS AND CRUISES

In addition to being manually controlled, you can configure your camera to follow a set path, pointing from location to location and repeating. In this mode, you should change your alarm settings, if not your recording mode and schedule. Each time the camera moves, it will trigger a motion detection event. It is recommended that you set the channel to record continuously and turn off any alarm activity associated with that channel.



PICTURE 6-5

Creating Preset Points

STEP 1. Point the camera to the desired spot. Adjust focus, iris and zoom as necessary.

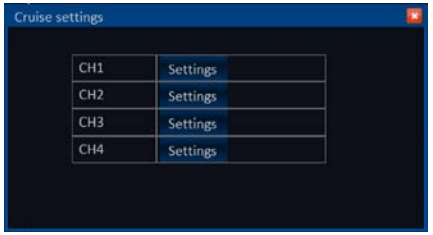
STEP 2. Set the Preset pull-down to the desired number (1-99) and then click **Set**.

STEP 3. Move the camera to the next desired spot and repeat to create the next preset.

Creating a Cruise

STEP 1. Click on the **Cruise Settings** button to open the **Cruise Settings** window.

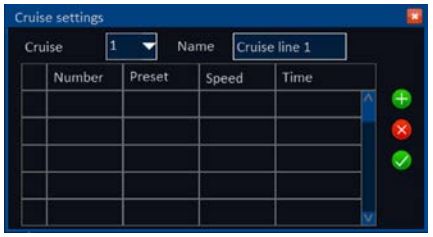
STEP 2. Click on the **Settings** button net to the correct channel.



PICTURE 6-6

STEP 3. Select which number cruise this will be. You may also give it a custom name.

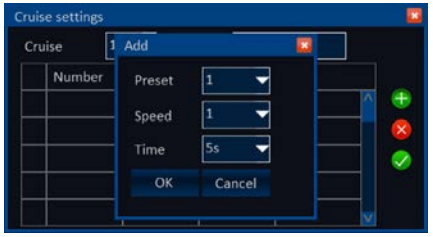
STEP 4. Click on the green **+** button on the left to begin adding preset points to the list.



PICTURE 6-7

STEP 5. In addition to selecting the Preset point, you may also select the speed at which the camera will move along with how long it will stay pointed at that point before moving on to the next point.

STEP 6. Click OK to add this point to the list.



PICTURE 6-8

STEP 7. Repeat Steps 4-6 as needed to add more points. The camera will return to the first point after stopping at all the points on the list and the cruise will begin again.

To remove a point, select the check box to the left and click on the red **X** button.

PICTURE 6-9

STEP 8. When complete, click on the green ✓ button to save.

To test your cruise, return to the PTZ controls, select your Cruise line and press **Start**. You can edit your cruise at any time by changing Preset points as well as adding or deleting points from the list.

HARD DISK DRIVE

CHAPTER 7

Your DVR uses an A/V Rated 7200RPM 3.5" SATA (Serial Advanced Technology Attachment) hard disk drive and will support drives up to 2TB (terabytes). These drives are the current industry standard and may be purchased wherever computer parts are sold. Depending on where you purchased your DVR, your hard drive may already be installed. But, we recognize that you may wish to upgrade or replace your drive in the future so this DVR is designed to make installation and replacement easy for the average user. A 5400RPM drive will be adequate as long as it is A/V Rated, but a 7200RPM drive is recommended for optimal performance.

It should be noted that while this is the only user-serviceable part within the case besides the battery and you will not void your warranty by installing or upgrading your hard disk drive, care must be taken to avoid damage to the other components within the case. Such damage will not be covered.

WARNING! ELECTRIC SHOCK RISK!

The DVR **MUST** be unplugged from all power sources as well as from the cameras before opening the case. Failure to do so can result in damage to the DVR or its components as well as injury or death.

7.1 INSTALLATION/REMOVAL

It is strongly advised against opening the case when atmospheric conditions present the risk of static discharge which can damage electronic components.

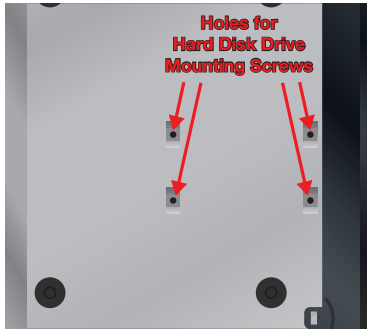
Whether installing the drive for the first time or removing the old one to install a new one, the steps are largely the same:

STEP 1. Disconnect the DVR from the power source as well as any other connections.

STEP 2. Remove screws (the number will vary depending on your model) from the side and rear of your DVR

STEP 3. Remove the case by sliding it backwards and then lifting off.

STEP 3A. If removing a hard drive, you will need to unscrew the four drive mounting screws at the bottom of the DVR or on the internal mounting rack.

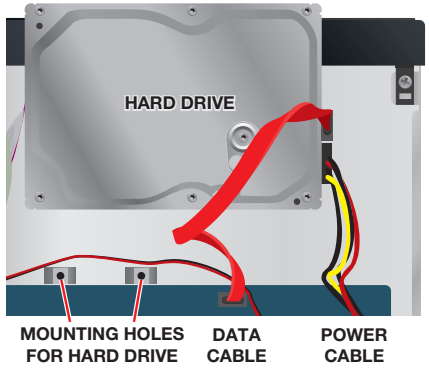


PICTURE 7-1

STEP 4. Connect the power and data cables. Press firmly, but do not force them onto the pins or you may damage them. The connectors are "keyed" to ensure they are connected in the proper position.

STEP 5. Attach hard drive to the base of the DVR with screws using the four mounting holes.

STEP 6. Replace the DVR cover and secure.



PICTURE 7-2

7.2 CALCULATING THE RECORDING CAPACITY OF A HARD DISK DRIVE

While the physical data capacity of a hard drive is fixed, how much video you can record upon it depends on your recording configurations. Higher quality recordings will take up more space on the drive and setting the DVR to record for more frequently will fill it up more rapidly.

To determine the optimal capacity for your purposes, the chart below to estimate the size of hard drive that you'll need.

VIDEO FORMAT	RESOLUTION	FRAME RATE (FPS)	VIDEO QUALITY	BIT RATE (kbps)	SPACE USED (MB/h)
NTSC	CIF	30	Highest	1000k	465
			Higher	768k	297
			Medium	512k	230
			Low	384k	173
			Lower	256k	115
			Lowest	128k	56
	D1	7.5	Highest	500k	228
			Higher	375k	128
			Medium	250k	117
			Lower	192k	75
			Lowest	128k	61
PAL	CIF	25	Highest	1000k	466
			Higher	768k	295
			Medium	512k	235
			Low	384k	175
			Lower	256k	112
			Lowest	128k	56.4
	D1	7.5	Highest	500k	228
			Higher	375k	128
			Medium	250k	117
			Lower	192k	75
			Lowest	128k	61

The formula for calculating the required disk space is:

Total Recording Capacity = Used space per hour (MB/h) x Recording time (hour) x number of channels

Example: A customer is using the NTSC format (30 frames per second), CIF resolution with video quality set to Lowest and a total of 16 Channels. He wants the unit to record continuously for a month. Therefore, the calculation will look like this:

56(MB/h), x 24 (hours/day) x 30 (days) x 16 (channels) = 645,120MB or 650GB

Installing a 750GB SATA hard drive should provide enough space for one month's continuous recording time at those settings.

APPENDIX

A.1 TROUBLESHOOTING

1. The DVR does not start after connecting the power, what is wrong?

a. The power adapter may have been damaged, or is not providing enough power. Please change the adapter.
b. The DVR may not be getting enough power from the outlet or surge protector it is attached to.
c. There could be a problem with the system board on the DVR

2. The indicator lights of the DVR are on, but no output. Why?

a. The power adapter may have been damaged, or is not providing enough power. Please change the adapter
b. The video format of the DVR is different from that of the monitor.
c. Connection problem. Please check the cable and the ports of the monitor and DVR.

3. Why are no images displayed on some or all of the channels of the DVR?

a. Connection problem. Please check the cables and the ports of camera and DVR.
b. Camera problem. Please check the cameras by attaching them directly to TV or working port on DVR.
c. The video format (NTSC/PAL) of the DVR is different from that of the cameras. Please change DVR video format.

4. The DVR cannot find the hard disk drive.

a. The power adapter is not providing enough power, or the adapter is not getting enough power from the outlet
b. Connection problem. Please check the power and data cables on the HDD.
c. The HDD is damaged and will need to be replaced.

5. I cannot record, what could be the problem?

a. The HDD is not formatted. Please format it manually first.
b. The record function is not enabled or setup correctly. Please refer to **Section 4.6 Recording**.
c. The HDD is full and the **Overwrite** function is not enabled. Please refer to **Section 5.3 Disk Management**.
d. The HDD is damaged and will need to be replaced.

6. I cannot use the mouse, what could be the problem?

a. Wait 5 minutes after connecting the mouse and then try again.
b. The mouse is not securely connected. Plug/unplug several times.
c. The mouse is incompatible with the system. Please try another mouse.

A.2 PRODUCT SPECIFICATIONS

ITEM	DEVICE PARAMETER	SPECIFICATION				
		QS494	QS458	QS4716	QS558	QS4816
SYSTEM	LANGUAGE	English, French, Portuguese, Spanish				
VIDEO	VIDEO IN	4 ch.	8 ch.	16 ch.	8 ch.	16 ch.
		Composite video input 1.0VP-P, impedance 75Ω, BNC				
	VIDEO OUT	1 ch. Composite video output, BNC, VGA 1V P-P CVBS signal				
	VGA OUTPUT	1024x768, 1280x1024				
	VIDEO DISPLAY	1 or 4 ch. switch, quad display	1, 4 or 9 ch. switch, quad display	1, 4, 9 or 16 ch. switch, quad display	1, 4 or 9 ch. switch, quad display	1, 4, 9 or 16 ch. switch, quad display
	VIDEO STANDARD	CIF PAL, 25F/S, CCIR625LINE, 50SCENE CIF NTSC, 30F/S, CCIR525LINE, 60SCENE				
		CIF 30fps D1 30fps	CIF 30fps D1 6fps	CIF 30fps	D1 30fps	CIF 30fps D1 30fps
AUDIO	AUDIO INPUT	1 ch.	1 ch.	2 ch.	8 ch.	2 ch.
		Impedance 600Ω, RCA				
	AUDIO OUTPUT	1 channel, impedance 600Ω, RCA				
	RECORD STYLE	Audio and video recorded simultaneously				
	AUDIO COMPRESSION	8khz 16bit ADPCM				
PICTURE PROCESSING AND STORAGE	PICTURE COMPRESSION	H.264				
	PICTURE RESOLUTION	CIF (352x240) D1 (702x480)				
	STREAMING STYLE	ISO14496-10				
	AUDIO STYLE	ADPCM				
	VIDEO CODE RATE	CIF: 384~768 KBPS D1: 896-1280 KBPS				
	AUDIO CODE RATE	32KB/S				
	DATA STORAGE	1 SATA HDD UP TO 2TB				

ITEM	DEVICE PARAMETER	SPECIFICATION				
		QS494	QS458	QS4716	QS558	QS4816
ALARM	ALARM INPUT	N/A	N/A	8	8	4
ALARM I/O	VOLTAGE	N/A	N/A	5v	5v	5v
CONNECTOR	ALARM OUTPUT	N/A	N/A	1	1	1
	PTZ INTERFACE	SUPPORT 1 RS485 (Pelco-D, Pelco-P, PelcoD1, PelcoD2, PelcoD3, PelcoD4, PelcoP_WJ, ABK2001, ACES-HN, Dragon, EE, HT600, HY, Lilin, Philips, SAE, Samsung, YAAN, YLDVR)				
	NETWORK INTERFACE	RJ45, 10M/100M				
	USB	Mouse USB 1.1				
Backup USB 2.0		Yes				
SOFTWARE UPGRADE	SUPPORTS USB FIRMWARE UPGRADE	Yes				
OTHERS	VOLTAGE INPUT	AC:110~240V				
	VOLTAGE OUTPUT	DC: 12V@2A		DC: 12V@3A	DC: 12V@2A	DC: 12V@2A
	POWER CONSUMPTION	7W without HDD				
	WORKING TEMPERATURE	50 TO 104°F (10 TO 40C)				

Q-SEE PRODUCT WARRANTY

Q-See is proud to back all of our products with a conditional service warranty covering all hardware for 12 months from the date of purchase. Additionally, our products also come with a free exchange policy that covers all manufacturing defects for one month from the date of purchase. Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction or abnormalities in operation or damage caused by the following reasons are not within the free service scope of our company:

1. Equipment damage caused by improper operation.
2. Improper equipment operation environment and conditions (e.g., improper power, extreme environmental temperatures, humidity, lightning and sudden surges of electricity).
3. Damage caused by acts of nature (e.g., earthquake, fire, etc).
4. Equipment damage caused by the maintenance of personnel not authorized by Q-See.
5. Product sold over 12 months ago.

In order to fulfill the terms of your warranty, you must complete the registration process after purchasing our product. To do this, simply fill out the User's Information Card on our website at www.Q-See.com

Qsee

QUESTIONS OR COMMENTS? CONTACT US

PRODUCT SUPPORT, DOWNLOADS, FIRMWARE UPDATES & MANUALS

24/7 Technical Resources

Live Chat (M-F, 9-5 PST)

www.Q-See.com/Support

simplicity - quality - technology

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